

WHAT IS CLAIMED:

1. A lithography mask blank comprising a substrate, having a shape of a substantially rectangular parallelepiped, of which the upper surface has a pattern region substantially at the center thereof and a peripheral region, wherein the pattern region and the peripheral region are in one plane.

2. A lithography mask blank comprising a substrate, having a shape of a substantially rectangular parallelepiped, which has a lower surface provided substantially at the center thereof with an opening and a self-supporting membrane having a pattern region substantially at the center of the upper surface thereof corresponding to said opening, wherein the pattern region and a peripheral region around the pattern region are in one plane.

3. A lithography mask blank as claimed in claim 1 or 2, wherein the entire lithography mask blank is integrally formed.

4. A lithography mask blank as claimed in claim 1 or 2, wherein the lithography mask blank consists of said substrate and a frame having a shape of substantially rectangular parallelepiped, which are fixed to each other.

5. A lithography mask blank as claimed in claim 4, wherein the fixing positions of said substrate with said frame substantially correspond to the reference points of a mechanism for fixing the transfer blank in a pattern writer or a cassette for housing the lithography mask blank.

6. A lithography mask blank as claimed in any one of claims 1 through 5, wherein the lithography mask blank is a blank for a charged-particle beam lithography mask.

7. A lithography mask blank as claimed in any one of

claims 1 through 5, wherein the lithography mask blank is a blank for an X-ray lithography mask or an extreme ultraviolet beam lithography mask.

5 8. A lithography mask comprising a substrate, having a shape of a substantially rectangular parallelepiped, which has a lower surface provided substantially at the center thereof with the opening and a self-supporting membrane having a pattern region substantially at the center of an upper surface thereof corresponding to said opening, wherein said self-supporting
10 membrane is provided with through-holes of a mask pattern in it or an absorber or scatterer of a mask pattern on it, and the pattern region and a peripheral region around the pattern region are in one plane.

15 9. A lithography mask as claimed in claim 8, wherein the entire lithography mask is integrally formed.

10 10. A lithography mask as claimed in claim 8, wherein the lithography mask consists of said substrate and a frame having a shape of a substantially rectangular parallelepiped, which are fixed to each other.

20 11. A lithography mask as claimed in any one of claims 8 through 10, wherein the lithography mask is used as a charged-particle beam lithography mask.

25 12. A lithography mask as claimed in any one of claims 8 through 10, wherein the lithography mask is used as an X-ray lithography mask or an extreme ultraviolet beam lithography mask.

13. A lithography wherein a mask pattern is transferred by using a charged-particle beam, X-ray, or extreme ultraviolet beam

with a lithography mask comprising a substrate, having a shape of a substantially rectangular parallelepiped, which has a lower surface provided substantially at the center thereof with an opening and a self-supporting membrane having a pattern region substantially at the center of an upper surface thereof corresponding to said opening, wherein said self-supporting membrane is provided with through-holes of said mask pattern in it or an absorber or scatterer of said mask pattern on it, and the pattern region and a peripheral region around the pattern region are in one plane.